

NIST Image Group Open Source (NIGOS)

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This document provides instructions for accessing a new service (NIGOS) provided by the NIST Image Group. An open source server has been set up to facilitate biometric technology transfer and collaboration through formal software management controls.

Initial access to NIGOS is provided as read-only as described below. Policies and procedures for issuing “developer” privileges and the ability to contribute to the open source projects through the source code server are currently being drafted. In the meantime, developer status will be considered on a case by case basis.

Current NIGOS Projects

- **MBARK**

Email Contact: mbark@nist.gov

Project View: `//depot/projects/MBARK/Main/...`

Project Description:

MBARK is a reference implementation for an externally deployable, multi-modal biometric acquisition and information system. MBARK may be used in operational settings to collect and maintain biometric data along with their defining characteristics.

- **BIOMDI**

Project View: `//depot/projects/BIOMDI/...`

Email Contact: wsalamon@nist.gov

Project Description:

The BIOMDI project contains libraries and programs used to read, write, and present minutiae records that conform to these ANSI INCITS standards:

INCITS 378 - Fingerprint Minutiae Format Data

INCITS 381 - Fingerprint Image Data

INCITS 385 – Face Image Data

ISO/IEC 19794 – Fingerprint Minutiae Data

See <http://www.itl.nist.gov/iad/894.03/nigos/biomdi.html> for details on the PIV program.

- **BIOMAPP**

Project View: `//depot/projects/BIOMAPP/...`

Email Contact: wsalamon@nist.gov

Project Description: The BIOMAPP project contains applications that make use of the libraries in BIOMDI :

matchoncard – Libraries and programs for testing match-on-card fingerprint matching functionality. Also included is a library to parse Tag-Length-Value encoded objects.

piv – Libraries and programs to create and verify biometric records formatted for the Personal Identity Verification project. This code was previously distributed in the INCITS Perforce project.

- NBIS

Project View 1: //depot/projects/NBIS/Rel_2.0.0/...
//depot/projects/NBIS/Test_2.X.X/...

Project View 2: //depot/projects/NBIS/Rel_1.2.0/...
//depot/projects/NBIS/Test_1.X.X/...

Project View 3: //depot/projects/NBIS/Main/...
//depot/projects/NBIS /Test/...

Project View 4: //depot/projects/NBIS/...

Note: The above Project Views are the possible view to set on your client view. Project View 1 is the latest NBIS 2.0.0 stable release with ANSI/NIST-ITL 1-2007 Standard with the designed test cases directory Test_2.X.X. Project View 2 is the latest NBIS 1.2.0 stable release with ANSI/NIST-ITL 1-2000 Standard with the designed test cases directory Test_1.X.X. Project View 3 is the NBIS Main branch with ANSI/NIST-ITL 1-2007 Standard but may not be stable which serve more like a development branch. Project View 4 which will include all the Project View 1, 2 and 3.

Email Contact: nbis@nist.gov

Project Description:

The NBIS Non-Export Control software is provided in NIGOS. The NBIS Non-Export Control software is a collection of application programs, utilities, and source code libraries. The Non-Export Control NBIS software is organized into five major packages: 1. PCASYS is a neural network based fingerprint pattern classification system; 2. MINDTCT is a fingerprint minutiae detector; 3. NFIQ is a neural network based fingerprint image quality algorithm, 4. AN2K7 is a reference implementation of the ANSI/NIST-ITL 1-2007 "Data Format for the Interchange of Fingerprint, Facial, Scar Mark & Tattoo (SMT) Information" standard; and 5. IMGTOOLS is a collection of image utilities, including encoders and decoders for Baseline and Lossless JPEG and the FBI's WSQ specification. The NBIS Export Control software (NFSEG and BOZORTH3) is only available on CD-ROM upon request. For detail information on how to request the Export Control NBIS source code, please visit <http://www.itl.nist.gov/iad/894.03/nigos/nigos.html>.

Note: NIST Biometric Image Software (NBIS) is replacement for NIST Fingerprint Image Software second release (NFIS2).

Accessing NIGOS

The NIST open source server uses the Perforce source code management system. To access the NIST server, you'll need to obtain a free Perforce client from:

www.perforce.com/perforce/loadprog.html

Also, read the Perforce introduction at:

www.perforce.com/perforce/doc.052/manuals/intro/intro.pdf

To obtain a copy of the source code from a UNIX or LINUX client, you must use the 'public' account to create a view of the Perforce depot. (Instructions may vary for Microsoft Windows users, but client software and documentation is available from Perforce.) Setting these environment variables will be needed:

```
P4USER=public
P4PASSWD=NISTPublic
P4PORT=nigos.nist.gov:1666
```

Then create a client view using the 'p4 client' command. You can use the default view to access the entire depot, or create a smaller view of just the source code projects of interest by changing the 'View:' clause to:

```
View:
//depot/projects/... //<client>/projects/...
```

where <client> will be the name of your client workstation, by default. You can override this by setting the P4CLIENT environment variable before running the 'p4 client' command. The client name shows up as the Client: clause in the view.

If you want, for example, just the MBARK primary development source code, set the View: to:

```
//depot/projects/MBARK/Main/... //<client>/projects/MBARK/Main/...
```

The view for BIOMDI is:

```
//depot/projects/BIOMDI/Main/... //<client>/projects/BIOMDI/Main/...
```

Once you have the client view saved, you can obtain the source code by updating your client view, using the 'p4 sync' command. Note: Once you sync, the Perforce server will consider your view up to date, so another sync won't pull any more. If you want to sync again (if you deleted the client copy, for example), use the 'p4 sync -f' command, which forces a new retrieval from the depot.

If after consulting the Perforce documentation you are still experiencing trouble with installing your Perforce client, you can contact us by sending email to nigos@nist.gov. After successful connection and software download, please take a moment to register by following the instructions in http://www.itl.nist.gov/iad/894.03/nigos/NIGOS_User_Registration_91306.pdf.

NIGOS License:

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